

**WHAT IS CLAIMED IS:**

1. A method for scheduling delivery of material to a manufacturer with a plurality of manufacturing lines comprising:  
determining a material requirement for an operation of at least one operation on a manufacturing line of the plurality of manufacturing lines; and  
scheduling delivery of material to meet the material requirement from an available inventory of material to the operation on the manufacturing line.

2. The method of claim 1 wherein:  
the material requirement includes identified material and a material need-by time; and  
the scheduled delivery of the material includes scheduled delivery of the identified material prior to the material need-by time.

3. The method of claim 1 further comprising:  
sending a material request for the material to meet the material requirement to a material source having the material;  
and wherein  
the material source is scheduled to deliver the material to meet the material requirement from the available inventory of material to the operation.

4. The method of claim 3 wherein  
the material request includes a plurality of materials to meet a plurality of material requirements to be delivered by the material source, with each material requirement of the plurality of material requirements to be delivered at a specified material delivery time.

5. The method of claim 1 wherein  
the available inventory includes at least one of a group consisting of:  
an external inventory; and  
an in-house inventory.

6. The method of claim 5 wherein external inventory comprises at least one of a group consisting of the following:  
a supplier inventory; and

4 a hub inventory.

1 7. The method of claim 5 wherein  
2 the available inventory comprises an in-transit inventory.

1 8. The method of claim 1 wherein  
2 at least one manufacturing line of the plurality of manufacturing lines is in each of at least  
3 two factories.

1 9. The method of claim 1 wherein  
2 at least two manufacturing lines of the plurality of manufacturing lines are in one factory.

1 10. The method of claim 1 wherein  
2 at least two operations are on one manufacturing line of the plurality of manufacturing lines.

1 11. The method of claim 1 wherein  
2 the material requirement is for material for manufacturing a computer system; and  
3 the available inventory includes material for manufacturing the computer system.

1 12. A method for scheduling deliveries of material comprising:  
2 obtaining a material requirement for an operation of at least one operation on a manufacturing  
3 line, the material requirement comprising an identified material and a material need-  
4 by time;  
5 identifying a next truck scheduled for delivery to the operation, the next truck originating at a  
6 material source;  
7 determining whether a following truck scheduled for delivery to the operation after the next  
8 truck has a material delivery time before the material need-by time of the material  
9 requirement, and  
10 when the following truck has a material delivery time before the material need-by  
11 time, delaying processing of the material requirement, and  
12 when the following truck has a material delivery time after the material need-by time,  
13 determining whether a later opportunity to request the identified material  
14 exists, and  
15 when a later opportunity exists, delaying requesting the identified material and  
16 scheduling a delivery of the identified material, and

when a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the operation on the next truck.

13. A method for scheduling deliveries of material comprising:  
 repeating a series of steps, the series comprising:  
 obtaining a material requirement for an operation on a manufacturing line from a plurality of material requirements, each material requirement of the plurality of material requirements comprising an identified material and a material need-by time;  
 identifying a next truck scheduled for delivery to the operation, the next truck originating at a material source;  
 determining whether a following truck scheduled for delivery to the operation after the next truck has a material delivery time before the material need-by time of the material requirement, and  
 when the following truck has a material delivery time before the material need-by time, delaying processing of the material requirement, and  
 when the following truck has a material delivery time after the material need-by time, determining whether a later opportunity to request the identified material exists, and  
 when a later opportunity exists, delaying requesting the identified material and scheduling a delivery of the identified material, and  
 when a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the operation on the next truck.

14. The method of claim 13 wherein  
 the repeating the series of steps is performed at a fixed time interval.

15. The method of claim 13 wherein

2 the repeating the series of steps is performed essentially continuously.

1 16. A method for scheduling deliveries of material comprising:  
2 repeating a series of steps essentially continuously, the series comprising:  
3 obtaining a material requirement for an operation on a manufacturing line from a  
4 plurality of material requirements, each material requirement of the plurality  
5 of material requirements comprising an identified material and a material  
6 need-by time;  
7 identifying a next truck scheduled for delivery to the operation, the next truck  
8 originating at a material source;  
9 determining whether a following truck scheduled for delivery to the operation after  
10 the next truck has a material delivery time before the material need-by time of  
11 the material requirement, and  
12 when the following truck has a material delivery time before the material  
13 need-by time, delaying processing of the material requirement, and  
14 when the following truck has a material delivery time after the material need-  
15 by time, determining whether a later opportunity to request the  
16 identified material exists, and  
17 when a later opportunity exists, delaying requesting the identified  
18 material and scheduling a delivery of the identified material,  
19 and  
20 when a later opportunity does not exist, requesting the identified  
21 material by adding the identified material to a material request  
22 for the next truck and scheduling a delivery of the identified  
23 material from the material source to the operation on the next  
24 truck.

1 17. A computer system comprising:  
2 a processor; and  
3 a memory, the memory storing instructions to be executed by the processor, the instructions  
4 comprising:  
5 instructions for determining a material requirement for an operation of at least one  
6 operation on a manufacturing line of the plurality of manufacturing lines; and  
7 instructions for scheduling delivery of material to meet the material requirement from

an available inventory of material to the operation on the manufacturing line.

18. The computer system of claim 17 wherein:

the instructions for determining a material requirement include instructions for determining identified material and a material need-by time; and  
the instructions for scheduling delivery of material include instructions for scheduling delivery of the identified material prior to the material need-by time.

19. The computer system of claim 17 further comprising:

instructions for sending a material request for the material to meet the material requirement to a material source having the material;  
and wherein  
the instructions for scheduling delivery of material include instructions for scheduling the material source to deliver the material to meet the material requirement from the available inventory of material to the operation.

20. The computer system of claim 19 wherein

the instructions for sending the material request include instructions for sending the material request for a plurality of materials to meet a plurality of material requirements to be delivered by the material source, with each material requirement of the plurality of material requirements to be delivered at a specified material delivery time.

21. A computer system comprising:

a processor;  
a memory, the memory storing instructions to be executed by the processor, the instructions comprising:  
instructions for repeating a series of steps essentially continuously;  
instructions for each step in the series of steps comprising:  
instructions for obtaining a material requirement for an operation of at least one operation on a manufacturing line, the material requirement comprising an identified material and a material need-by time;  
instructions for identifying a next truck scheduled for delivery to the operation, the next truck originating at a material source;  
instructions for determining whether a following truck scheduled for delivery

to the operation after the next truck has a material delivery time before the material need-by time of the material requirement;  
instructions for delaying processing of the material requirement when the following truck has a material delivery time before the material need-by time;  
instructions for determining whether a later opportunity to request the identified material exists when the following truck has a material delivery time after the material need-by time;  
instructions for delaying requesting the identified material and scheduling a delivery of the identified material when a later opportunity exists;  
instructions for requesting the identified material by adding the identified material to a material request for the next truck when a later opportunity does not exist; and  
instructions for scheduling a delivery of the identified material from the material source to the operation on the next truck when a later opportunity does not exist.

22. A computer program product comprising:

instructions for determining a material requirement for an operation of at least one operation on a manufacturing line of the plurality of manufacturing lines;  
instructions for scheduling delivery of material to meet the material requirement from an available inventory of material to the operation on the manufacturing line; and  
a computer readable medium for storing the instructions for determining and the instructions for scheduling.

23. The computer program product of claim 22 wherein:

the instructions for determining a material requirement include instructions for determining identified material and a material need-by time; and  
the instructions for scheduling delivery of material include instructions for scheduling delivery of the identified material prior to the material need-by time.

24. The computer program product of claim 22 further comprising:

instructions for sending a material request for the material to meet the material requirement to a material source having the material;

4 and wherein  
5 the instructions for scheduling delivery of material include instructions for scheduling the  
6 material source to deliver the material to meet the material requirement from the  
7 available inventory of material to the operation.

1 25. The computer system of claim 24 wherein  
2 the instructions for sending the material request include instructions for sending the material  
3 request for a plurality of materials to meet a plurality of material requirements to be  
4 delivered by the material source, with each material requirement of the plurality of  
5 material requirements to be delivered at a specified material delivery time.

1 26. A computer program product comprising:  
2 instructions for repeating a series of steps essentially continuously;  
3 instructions for each step in the series of steps comprising:  
4 instructions for obtaining a material requirement for an operation of at least one  
5 operation on a manufacturing line, the material requirement comprising an  
6 identified material and a material need-by time;  
7 instructions for identifying a next truck scheduled for delivery to the operation, the  
8 next truck originating at a material source;  
9 instructions for determining whether a following truck scheduled for delivery to the  
10 operation after the next truck has a material delivery time before the material  
11 need-by time of the material requirement;  
12 instructions for delaying processing of the material requirement when the following  
13 truck has a material delivery time before the material need-by time;  
14 instructions for determining whether a later opportunity to request the identified  
15 material exists when the following truck has a material delivery time after the  
16 material need-by time;  
17 instructions for delaying requesting the identified material and scheduling a delivery  
18 of the identified material when a later opportunity exists;  
19 instructions for requesting the identified material by adding the identified material to a  
20 material request for the next truck when a later opportunity does not exist; and  
21 instructions for scheduling a delivery of the identified material from the material  
22 source to the operation on the next truck when a later opportunity does not  
23 exist;

and  
a computer-readable medium for storing the instructions for repeating, the instructions for obtaining, the instructions for identifying, the instructions for determining whether a following truck scheduled for delivery to the operation after the next truck has a material delivery time before the material need-by time of the material requirement, the instructions for delaying processing, the instructions for determining whether a later opportunity to request the identified material exists when the following truck has a material delivery time after the material need-by time, the instructions for delaying requesting, and the instructions for requesting, and the instructions for scheduling.

27. A signal embodied in a carrier wave comprising:  
instructions for determining a material requirement for an operation of at least one operation on a manufacturing line of the plurality of manufacturing lines; and  
instructions for scheduling delivery of material to meet the material requirement from an available inventory of material to the operation on the manufacturing line.

28. The signal of claim 27 wherein:  
the instructions for determining a material requirement include instructions for determining identified material and a material need-by time; and  
the instructions for scheduling delivery of material include instructions for scheduling delivery of the identified material prior to the material need-by time.

29. The signal of claim 27 further comprising:  
instructions for sending a material request for the material to meet the material requirement to a material source having the material;  
and wherein  
the instructions for scheduling delivery of material include instructions for scheduling the material source to deliver the material to meet the material requirement from the available inventory of material to the operation.

30. The signal of claim 29 wherein  
the instructions for sending the material request include instructions for sending the material request for a plurality of materials to meet a plurality of material requirements to be delivered by the material source, with each material requirement of the plurality of



material requirements to be delivered at a specified material delivery time.

31. A signal embodied in a carrier wave comprising:

instructions for repeating a series of steps essentially continuously;

instructions for each step in the series of steps comprising:

instructions for obtaining a material requirement for an operation of at least one operation on a manufacturing line, the material requirement comprising an identified material and a material need-by time;

instructions for identifying a next truck scheduled for delivery to the operation, the next truck originating at a material source;

instructions for determining whether a following truck scheduled for delivery to the operation after the next truck has a material delivery time before the material need-by time of the material requirement;

instructions for delaying processing of the material requirement when the following truck has a material delivery time before the material need-by time;

instructions for determining whether a later opportunity to request the identified material exists when the following truck has a material delivery time after the material need-by time;

instructions for delaying requesting the identified material and scheduling a delivery of the identified material when a later opportunity exists;

instructions for requesting the identified material by adding the identified material to a material request for the next truck when a later opportunity does not exist; and

instructions for scheduling a delivery of the identified material from the material source to the operation on the next truck when a later opportunity does not exist.